

Serial No. 09/736,755
Amult. dated May 24, 2004
Reply to Office Action of February 23, 2004
Amendments to the Specification:

Attorney Docket No. PF02006NA


Please replace the Abstract at page 38 with the following amended Abstract:

Spread spectrum packet-switching radio devices (22) are operated in two or more ad-hoc networks or pico-networks (19, 20, 21) that share frequency-hopping channels and time slots that may collide. ~~The piconets (19, 20, 21) can be short range wireless associations of communicating devices (22), for example according to the Bluetooth, Home RF or similar industry protocols. One device in each piconet (19, 20, 21) is a synchronizing master (25) and others are slaves (27) that follow the master's frequency hopping sequence. The sequences (54) of two or more operating piconets (19, 20, 21), i.e., masters (25), occasionally coincide, which could cause simultaneous transmissions that interfere or collide.~~ The frequency hopping sequences (54) of two or more masters (25) are exchanged using identity codes, permitting the devices to anticipate collision time slots (52). Priorities are assigned to the simultaneously operating piconets (19, 20, 21) during collision slots (52), e.g., as a function of their message queue size or latency, or other factors. Lower priority devices may abstain from transmitting during predicted collision slots (52), and/or a higher priority device may employ enhanced transmission resources during those slots, such as higher error correction levels, or various combinations of abstinence and error correction may be applied. Collisions are avoided or the higher priority piconet (19, 20, 21) is made likely to prevail in a collision. ~~Priorities are repetitively re-determined and re-assigned, to allocate communications resources among all the devices (22) and piconets (19, 20, 21).~~

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Please replace the paragraph beginning at page 6, line 15, with the following amended paragraph:

The invention is applicable to current wireless systems and standards such as the Bluetooth consortium standard, the Home RF standard, the Metricom Ricochet system, IEEE 802.11, etc. These are exemplary systems that support point to point and multipoint access, but the invention is not limited thereto and generally applies to any spread spectrum frequency hopping system. In an exemplary embodiment, an equipped device functions as a master or access point that synchronizes slave devices in an ad-hoc or "pico-network." This piconet couples devices within a limited range (e.g., 10m to 100m) and may also couple with other piconets and/or with access points that have means for data communications with fixed networks or other resources. Master and slave devices thereby couple into data communication with one another and/or with other mobile or fixed devices in a transient manner. In a configuration adapted for commercial use, for example, a user carried mobile device couples transiently into a network located on the premises of a particular business or facility, which has one or more access points capable of packet switched data communications using frequency hopping over a short range. The business or facility network might have a single access point device or plural access point devices, or may have a single unit capable of operating simultaneously on two or more piconets (i.e., conducting simultaneous communications using two or more frequency hopping sequences). Devices operating on a given piconet are synchronized and follow the same hopping sequence, namely a sequence dictated by the master or access point. Devices and piconets that are not synchronized together can also communicate across data paths synchronized to different masters in a "scatter-network." Such networks can arise whenever devices come into range and permit user devices to find and use services temporarily found to be accessible within a short communication range.